UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/667,009	09/19/2003	Neil Gilmartin	030207 (BLL-0110)	9139

7590 10/25/2007 Philmore H. Colburn II Cantor Colburn LLP 55 Griffin Road South Bloomfield, CT 06002	**EXAMINER** HOANG, HIEU T

ART UNIT	PAPER NUMBER
2152	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/667,009	GILMARTIN ET AL.
	Examiner	**Art Unit**	
	Hieu T. Hoang	2152	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>19 September 2003</u>.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>19 September 2003</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date <u>See Continuation Sheet</u>.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____ .

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :08/27/07, 06/18/07, 02/06/07, 02/20/04.

DETAILED ACTION

1.   This office action is in response to the communication filed on 09/19/2003.

2.   Claims 1-20 are pending and presented for examination.

Claim Rejections - 35 USC § 112

3.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4.   Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase "subtracting the minimum of said current access port side bandwidth requirement and said current non-access port bandwidth requirement from the minimum of said potential access port side bandwidth requirement and said current non-access port bandwidth requirement" can have multiple meanings. Let current access port side bandwidth requirement = CA, current non-access port bandwidth requirement = CNA, and potential access port side bandwidth requirement = PA.

First, the phrase can mean: minimum(PA+CAN) – minimum(CA+CAN), wherein each sum has a minimum value.

Second, the phrase can mean: minimum(PA,CAN) – minimum(CA,CAN).

The examiner interprets the phrase to have its second meaning. However, appropriate correction is required to further clarify the claim.

Claim Objections

5.   Claim 11 is objected to as being dependent upon a rejected base claim, but

would be allowable if rewritten in independent form including all of the limitations of the

base claim and any intervening claims and if amended to overcome the 35 U.S.C. 112,

second paragraph rejection above.

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
>
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
>
> the prior art are such that the subject matter as a whole would have been obvious at the time the
>
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
>
> Patentability shall not be negatived by the manner in which the invention was made.

7.   Claims 1-10, 12-20 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Ngo et al. (US 2004/0042416, hereafter Ngo) and further in view of Balakrishnan et

al. (US 2004/0196790, hereafter Balakrishnan).

8.   For claim 1, Ngo discloses a method for providing Ethernet VLAN capacity

requirement estimation, said method comprising:

receiving a VLAN including VLAN access ports (fig. 2, access ports 104), VLAN

switches (fig. 2, switches 106) and VLAN trunks (fig. 2, trunk links 208),

Ngo does not explicitly disclose:

wherein said VLAN access ports include VLAN bandwidth requirements and

VLAN class of service and said VLAN trunks include VLAN capacity counters and VLAN

threshold parameters, receiving a target access port, said target access port including a

target class of service and a target bandwidth requirement from a requestor;

determining a target trunk and target switch corresponding to said target

access port, wherein said target trunk corresponds to one of said VLAN trunks and

said target switch corresponds to one of said VLAN switches; calculating a bandwidth

contribution of said target access port to said VLAN, said calculating responsive to said

VLAN trunks, said VLAN switches, said VLAN access ports, and said target access

port; and transmitting said bandwidth contribution to said requestor;

However, Balakrishnan discloses:

wherein said VLAN access ports include VLAN bandwidth requirements and

VLAN class of service (fig. 3, page 6, table in example 1, priority of each VLAN, min,

max) and said VLAN trunks include VLAN capacity counters and VLAN threshold

parameters ([0081] line 14-15, aggregate transmitted rate is the current capacity and

aggregate j is the maximum threshold of the trunk),

receiving a target access port, said target access port including a target class of

service and a target bandwidth requirement from a requestor ([0080] lines 16-22, a port

has an associated flow which has a priority (class of service) and min and max rate

requirement);

determining a target trunk and target switch corresponding to said target

access port, wherein said target trunk corresponds to one of said VLAN trunks and

said target switch corresponds to one of said VLAN switches (fig. 3, target trunk is 311

and target port is the one associates with the flow);

calculating a bandwidth contribution of said target access port to said VLAN,

said calculating responsive to said VLAN trunks, said VLAN switches, said VLAN

access ports, and said target access port (fig. 4, [0082], calculate a flow bandwidth

effect and allocation based on the stability requirement (min and max rate requirement)

of the access port and aggregate link, based on current transmitted flow bandwidth);

and

transmitting said bandwidth contribution to said requestor ([0090], bandwidth

allocation is calculated).

Therefore, it would have been obvious for one skilled in the art at the time of the

invention to combine the teachings of Ngo and Balakrishnan to control VLAN network

flow rates as disclosed by Balakrishnan (Balakrishnan, abstract)

9.   For claim 2, Ngo-Balakrishnan discloses the invention as in claim 1. Ngo-

Balakrishnan further discloses adding said bandwidth contribution to a target capacity

counter corresponding to said target trunk resulting in a target capacity; transmitting an

alert in response to said target capacity exceeding a target threshold corresponding to

said target trunk (Balakrishnan, fig. 4, step 413, is target capacity greater than max

aggregate bandwidth, yes will raise a condition or an alert).

10.   For claim 3, Ngo-Balakrishnan discloses the invention as in claim 2. Ngo-

Balakrishnan further discloses said target threshold is an alarm threshold (Balakrishnan,

[0081] line 15, maximum limit for aggregate j).

11.   For claim 4, Ngo-Balakrishnan discloses the invention as in claim 2. Ngo-

Balakrishnan further discloses said target threshold is a cut-off threshold (Balakrishnan,

[0081] line 15, maximum limit for aggregate j).

12.   For claim 5, Ngo-Balakrishnan discloses the invention as in claim 2. Ngo-

Balakrishnan further discloses updating said target capacity counter with said target

capacity and adding said target access port to said VLAN in response to said target

capacity not exceeding said target threshold (Balakrishnan, [0039], [0040], allocate

bandwidth if sum of aggregate bandwidth does not exceed maximum aggregate

bandwidth of the trunk).

13.   For claim 6, Ngo-Balakrishnan discloses the invention as in claim 2. Ngo-

Balakrishnan further discloses said target threshold varies based on said target class of

service (Balakrishnan, page 6, tables on priority levels of flows and VLAN).

14.   For claim 7, Ngo-Balakrishnan discloses the invention as in claim 2. Ngo-

Balakrishnan further discloses said target capacity varies based on said target class of

service (Balakrishnan, page 6, tables on priority levels of flows and VLAN).

15.   For claims 8, 9, and 10, Ngo-Balakrishnan discloses the invention as in claim 1.

Ngo-Balakrishnan further discloses said target class of service is best effort, committed

bandwidth, or priority plus (Balakrishnan, page 6 table 1, priority levels from lowest to

highest).

16.   For claim 12, Ngo discloses a method for providing Ethernet VLAN capacity

requirement estimation, said method comprising:

receiving a VLAN (fig. 2, VLAN);

auditing said VLAN including:

checking said VLAN for structural integrity (fig. 8, steps 802-806);

computing a hub value associated with said VLAN (fig. 2, central hub R5); and

Ngo does not disclose:

computing a capacity counter value associated with said VLAN; checking

capacity on a trunk associated with said VLAN; and transmitting a result

responsive to said auditing.

However, Balakrishnan discloses:

computing a capacity counter value associated with said VLAN, checking

capacity on a trunk associated with said VLAN ([0081] line 14-15, aggregate

transmitted rate is the current capacity); and

transmitting a result responsive to said auditing ([0090], bandwidth

allocation is calculated).

Therefore, it would have been obvious for one skilled in the art at the time of the

invention to combine the teachings of Ngo and Balakrishnan to control VLAN network

flow rates as disclosed by Balakrishnan (Balakrishnan, abstract)

17.   For claims 13 and 14, Ngo-Balakrishnan discloses the invention as in claim 12.

Ngo-Balakrishnan further discloses said checking said VLAN for structural integrity

includes verifying that said VLAN is complete and/or coherent (Ngo, fig. 8, steps 802-

806).

18.   For claim 15, Ngo-Balakrishnan discloses the invention as in claim 12. Ngo-

Balakrishnan further discloses said checking said VLAN for structural integrity includes

verifying a tree structure associated with said VLAN (Ngo, [0050], spanning tree).

19.   For claim 16, the claim is rejected for the same rationale as in claim 1. Ngo-

Balakrishnan discloses a system for providing Ethernet VLAN capacity requirement

estimation, the system comprising:

a network; a storage device in communication with said network, wherein said storage

device includes a VLAN database; a user system in communication with said network

(Balakrishnan, [0005], world wide web with VLAN users); and a host system in communication with said network (Balakrishnan, [0028], administrator hosts).

20.   For claims 17 and 18, Ngo-Balakrishnan discloses the invention as in claim 16. Ngo-Balakrishnan further discloses said network is the Internet or an intranet (Balakrishnan, [0005], internet has VLANs as intranets).

21.   For claim 19, Ngo-Balakrishnan discloses the invention as in claim 16. Ngo-Balakrishnan further discloses said VLAN database is a relational database (Balakrishnan, page 6, table 2 is read as a VLAN relational database).

22.   For claim 20, the claim is rejected for the same rationale as in claim 1.

Conclusion

23.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure:

- Duffield et al. US 6,912,232.

- Belser et al. US 6,151,324.

- Jackson. US 2004/0146006.

- Maeshima et al. US 6,092,113.

- Metin et al. US 2002/0031142.

- De Silva et al. US 2004/0081180.

- Liu et al. US 2004/0098500.

- McDysan et al. US 6,778,498.

- Graves et al. US 2004/0249916.

- Hasegawa et al. US 2003/0172188.

- Chase et al. US 7,092,389.

- Ambe et al. US 2002/0054595.

- Friedman et al. US 5,949,788.

24.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Hieu T. Hoang whose telephone number is 571-270-

1253. The examiner can normally be reached on Monday-Thursday, 8 a.m.-5 p.m.,

EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Bunjob Jaroenchonwanit can be reached on 571-272-3913. The fax phone

number for the organization where this application or proceeding is assigned is 571-

273-8300.

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USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HH

JEFFREY PWU
SUPERVISORY PATENT EXAMINER